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Road vehicles, and tractors and
machinery for agriculture and forestry
—Determination of burning behaviour
of interior materials

ICS 13.220.40; 43.040.60

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS D 1201 : 1994** is replaced with **JIS D 1201 : 1998**.

In this revision, for the purpose of conformity to International Standard, **ISO 3795 : 1989, Road vehicles, and tractors and machinery for agriculture and forestry—Determination of burning behaviour of interior materials** is introduced as the basis.

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4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Road vehicles, and tractors and machinery for agriculture and forestry— Determination of burning behaviour of interior materials

Introduction This Japanese Industrial Standard has been prepared based on the second edition of **ISO 3795**, *Road vehicles, and tractors and machinery for agriculture and forestry—Determination of burning behaviour of interior materials* published in 1989, without modifying the technical content, excepting supplement of the following particulars.

- a) To indicate general tolerance class on the test apparatus and devices.
- b) For the sample, to permit any material, insofar as taken from the same lot or consisting of the same ingredient, in addition to those from the true product.
- c) To indicate the dimensional tolerance on the gas burner.

In this Standard, the parts underlined with dots show the matters not specified in the original International Standard.

Evaluation of burning behaviour of interior materials is based on the assumption that a fire in the passenger compartment is unlikely to occur when the burning rate of the interior material under the action of a small flame is zero or very small.

In the framework of international regulations for motor vehicle safety prepared by the competent groups of the Economic Commission for Europe (ECE/UNO), **ISO** had been requested to develop a method for the determination of the burning behaviour of interior materials in motor vehicles. Extensive information on existing test methods was collected and evaluated. In view of safety standards which are already mandatory, considerations were based primarily on the test procedure defined in **US-FMVSS 302**.

Considerable attention was devoted to the problem of ventilation of the combustion chamber. Two series of comparative tests were conducted to investigate different design variations. After extended discussions, it was decided to incorporate the combustion chamber described in this Standard. Furthermore, it was decided to require the presence of supporting wires as part of the standard equipment in order to avoid subjective interpretations of sample behaviour by the test personnel.

1 Scope This Japanese Industrial Standard specifies a method for determining the burning behaviour of materials used in the occupant compartment of road vehicles (for example, passenger cars, lorries/trucks, estate cars, coaches), and of tractors and machinery for agriculture and forestry, after exposure to a small flame.

This method permits testing of materials and parts of the vehicle interior equipment individually or in combination up to a thickness of 13 mm. It is used to judge the uniformity of production lots of such materials with respect to their burning behaviour.

Because of the many differences between the real world situation (application and orientation within vehicle interior, conditions of use, ignition source, etc.) and the precise test conditions specified in this Standard, this method cannot be considered as suitable for evaluation of all true in-vehicle burning characteristics.

Remarks : The corresponding International Standard is shown below:

ISO 3795 : 1989 *Road vehicles, and tractors and machinery for agriculture and forestry—Determination of burning behaviour of interior materials*

2 Normative reference The following standard contains provisions which, through reference in this text, constitute provisions of this Standard. The most recent edition of the standard indicated below shall be applied.

JIS B 0405 *General tolerances—Part 1 : Tolerances for linear and angular dimensions without individual tolerance indications*

Remarks : ISO 2768-1 : 1989, General tolerances—Part 1 : Tolerances for linear and angular dimensions without individual tolerance indications is identical to this Standard.

3 Definitions For the purposes of this Standard, the following definitions apply.

- a) **burning rate** Quotient of the burnt distance measured according to this Standard and the time taken to burn this distance.

It is expressed in millimetres per minute.

- b) **composite material** Material composed of several layers of similar or different materials intimately held together at their surfaces by cementing, bonding, cladding, welding, etc.

When different materials are connected together intermittently (for example, by sewing, high-frequency welding, riveting), then in order to permit the preparation of individual samples in accordance with clause 6, such materials will not be considered as composite materials.

- c) **exposed side** Side which faces towards the occupant compartment when the material is mounted in the vehicle.

4 Principle A sample is held horizontally in a U-shaped holder and is exposed to the action of a defined flame for 15 s in a combustion chamber, the flame acting on the free end of the sample. The test determines if and when the flame extinguishes or the time in which the flame passes a measured distance.

5 Apparatus

5.1 Combustion chamber The combustion chamber shall be constructed as shown in Attached Fig. 1, preferably of stainless steel and having the dimensions given in Attached Fig. 2. The front of the chamber contains a flame-resistant observation window, which may cover the front and which can be constructed as an access panel.

The bottom of the chamber has vent holes, and the top has a vent slot all around. The combustion chamber is placed on four feet, 10 mm high.